



SOS Explorer 1.2

Setup Guide

Spring 2017

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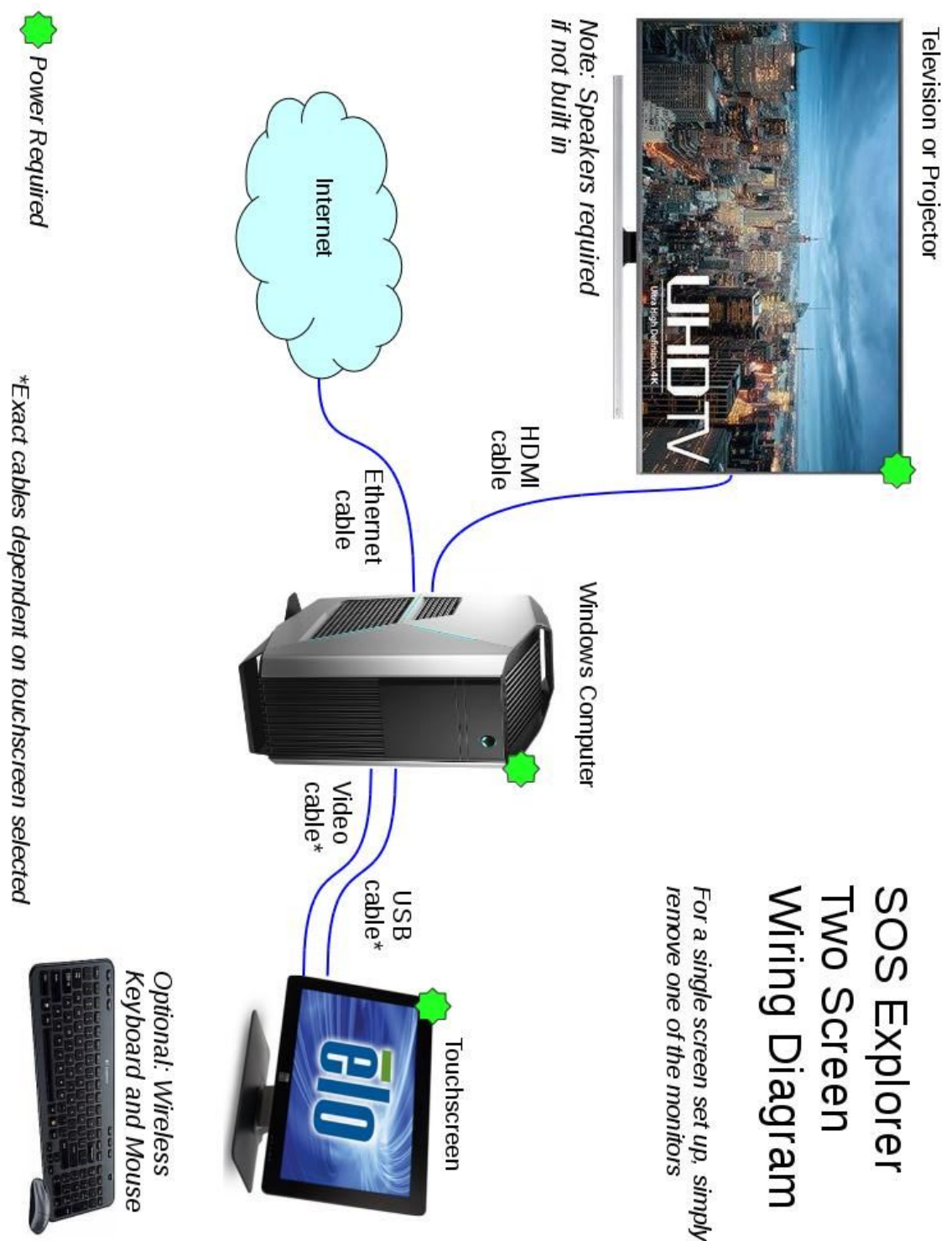
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SOS Explorer Two Screen Wiring Diagram

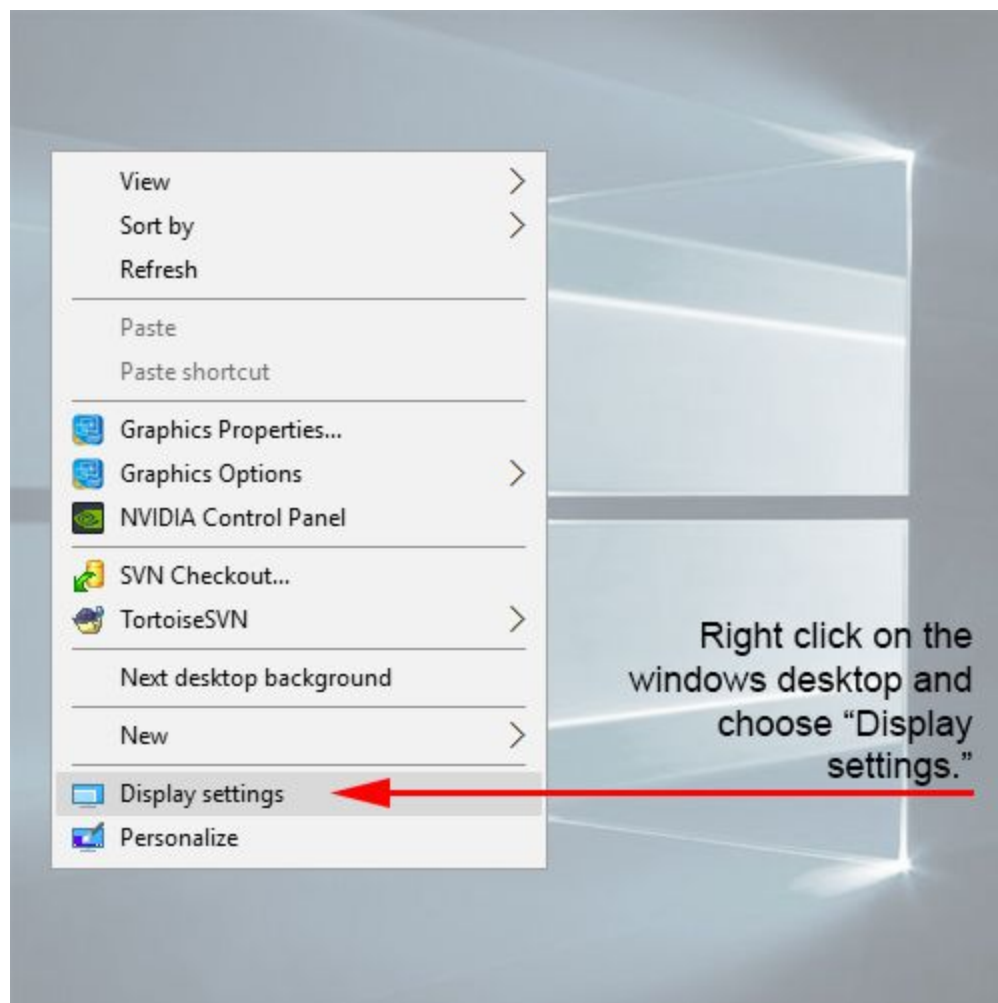
*For a single screen set up, simply
remove one of the monitors*



Part 1) Wiring Diagram

Part 2) Screen Resolution Settings and Multiple Monitors

Before running SOS Explorer, the computer should be configured with the proper display configuration. The application expects two monitors to be attached. The main or primary screen should be the touch screen and the secondary screen should be the larger TV. To access the display settings right click on the desktop and choose “Display settings” as shown in the image below.



This will open the following dialog window where you should try to match the settings shown below. In two monitor mode both monitors should be displayed with the main (primary) touchscreen appears below the larger secondary TV. Further all displays should be set to 100% sizing and the extended desktop mode enabled. In single monitor mode there will be only one display shown. If using a set of virtual reality glasses they will not appear in this dialog.

Home

Find a setting

System

- Display
- Apps & features
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Customize your display

If using both a TV and touchscreen make sure the display on the laptop is deactivated. This is done through the "Multiple displays" dropdown below.

Pressing the "Identify" link may assist in determining monitor assignments.

Display 2 should be the secondary display and should be the TV.

Display 1 should be the main (primary) display and be the touchscreen.

Identify Detect Connect to a wireless display

Change the size of text, apps, and other items: 100%

Orientation
Landscape

Adjust brightness level

Multiple displays
Extend these displays

☒ Make this my main display

Apply Cancel

Advanced display settings

Once all the changes have been made make sure to hit the "Apply" button.

All displays should be set to 100% sizing. Logging out and back into the computer may be necessary.

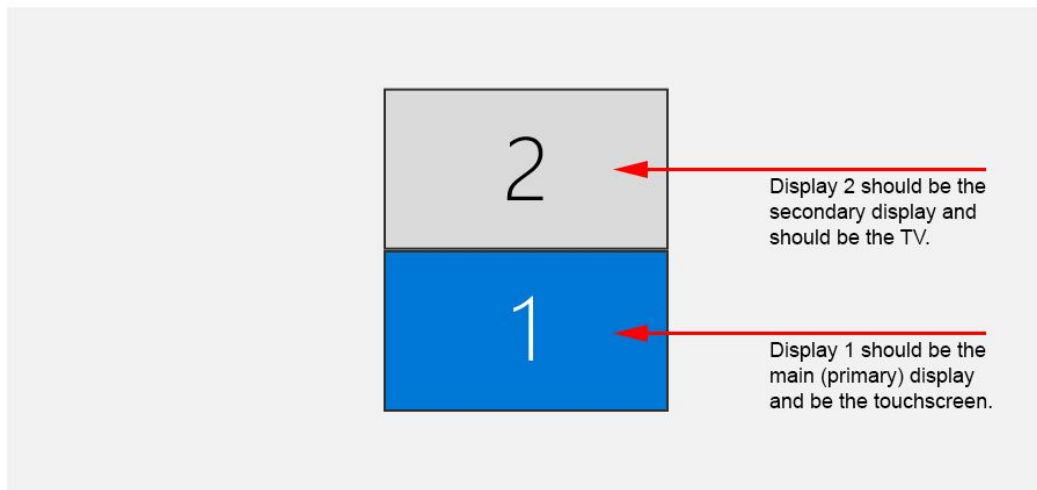
For two screen mode make sure to select "Extend these displays" and configure them as seen in the image above. In single screen mode if connecting to an external display you can choose to mirror the display.

Change all displays to the same aspect ratio under "Advanced display settings."

Access "Advanced display settings" found at the bottom of the dialog window check to make sure that all the attached displays are running at the same screen ratio. Typical resolutions include 1920x1080 (1080P) or 3840x2160 (4K or 2160P).

⚙️ Advanced display settings

Customize your display



Identify Detect Connect to a wireless display

Multiple displays

Extend these displays

Resolution

1920 × 1080

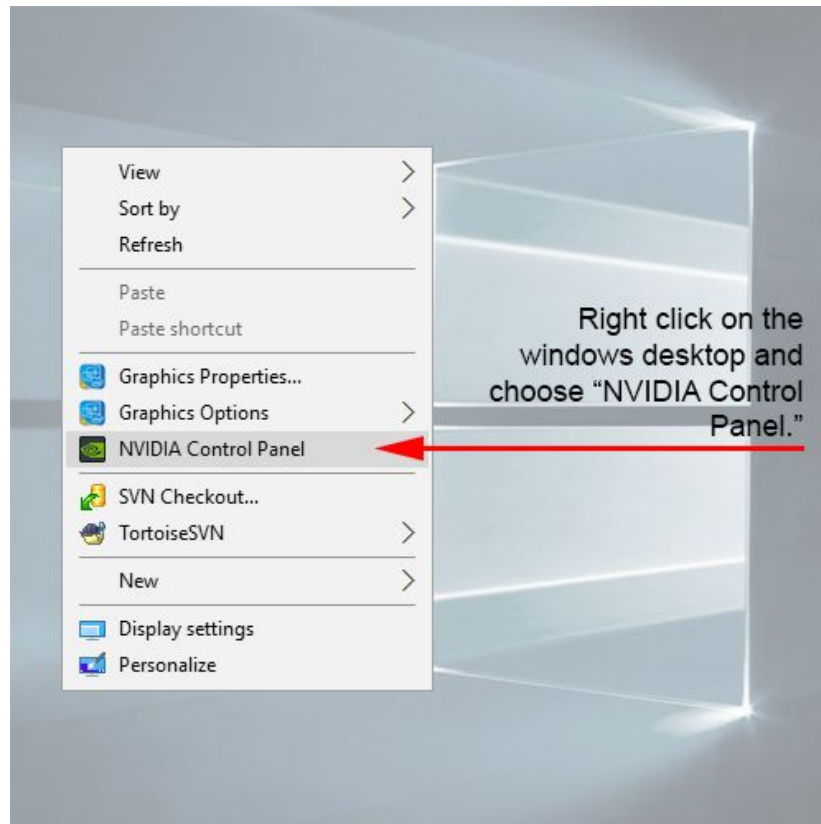
Apply Cancel

Once all the changes have been made make sure to hit the "Apply" button.

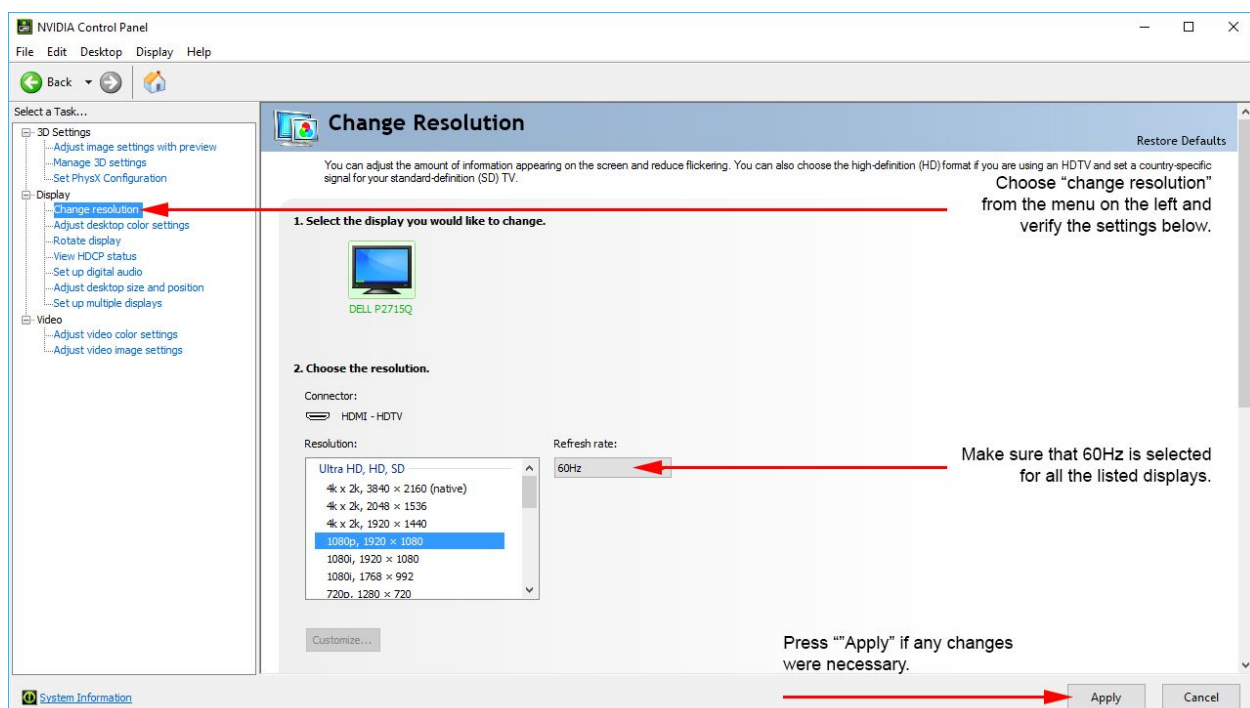
Make sure to select "Extend these displays" and configure them as seen in the image above. The displays may be different sizes. If using both a TV and a touchscreen deactivate the laptop monitor.

The resolution for all attached monitors should be the same aspect ratio. Typical resolutions are 1920x1080 (1080P) or 3840x2160 (4K or 2160P.)

Finally, it may be necessary to change the refresh rate on the TV. To do this right click on the desktop and select "NVIDIA Control Panel" as shown below.



Select "Change resolution" from the left panel in the dialog window and then verify that the refresh rate is set at 60Hz for all the available displays. See the image below for more instructions.

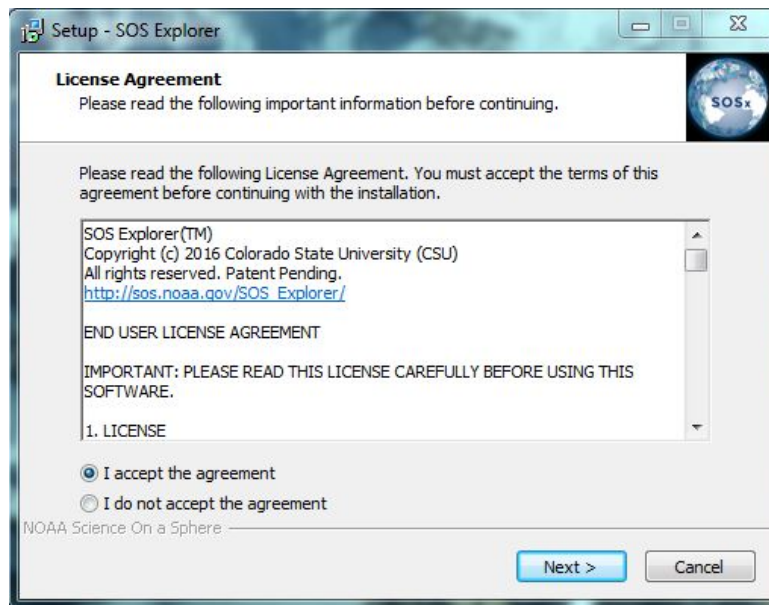


Part 3) Installing the SOS Explorer (SOSx) Software

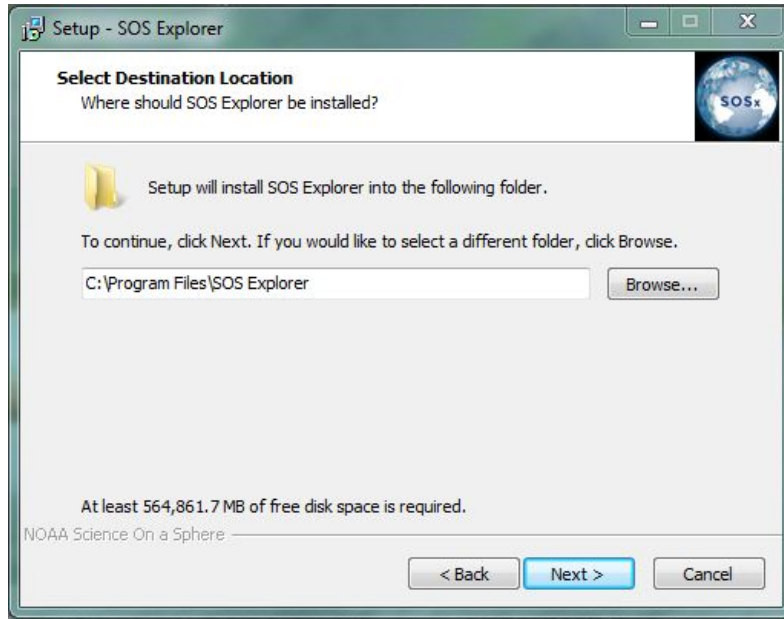
Before installing the software, **the computer needs to be configured** with all the hardware attached the correct screen configuration. For example, if you're using a touch screen and a 4k television, make sure the proper resolutions are set for each display. See the Setup Guide for instructions on this. You will also **need to be connected to the internet** for the final steps of the installation.

Step-by-step Instructions:

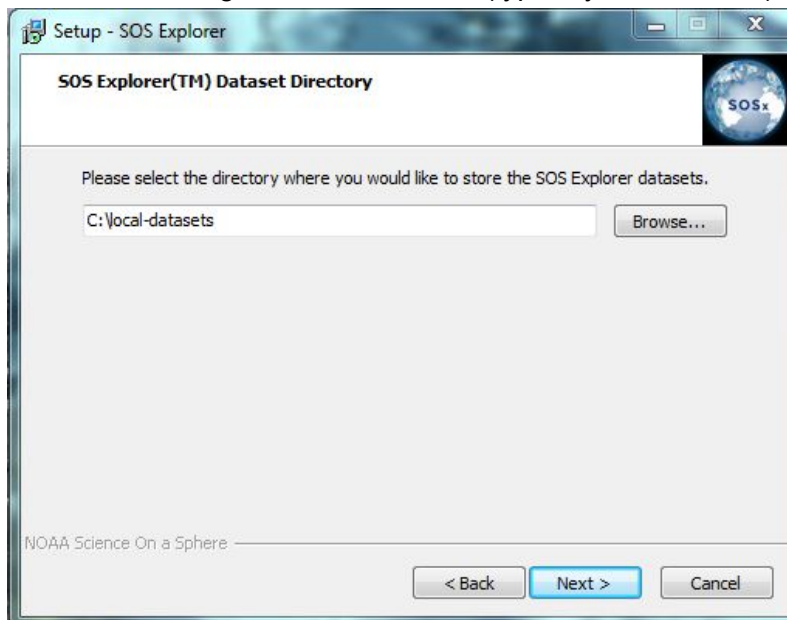
- 1) Plug the hard disk into one of the USB3 ports (they're blue)
- 2) If it doesn't automatically pop up (this behavior depends on configuration settings of your computer), open your file browser and look for the drive named SOSx_Install
- 3) Double-click the SOSx-setup.exe file to launch the installation
- 4) A license agreement will pop up. Read through and click "I accept the agreement" and then press *Next*



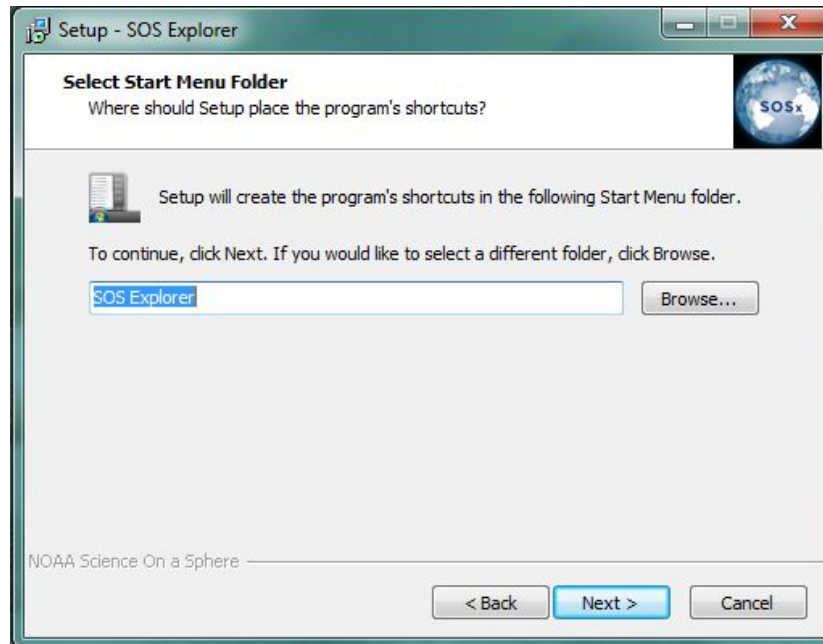
- 5) Then you will be asked to select the destination location. Accept the default location by pressing *Next*
 - a) If you've previously installed SOSx, you'll get a message about the folder already existing, so press *Yes* to rewrite the folder (this will be the case for upgrades)



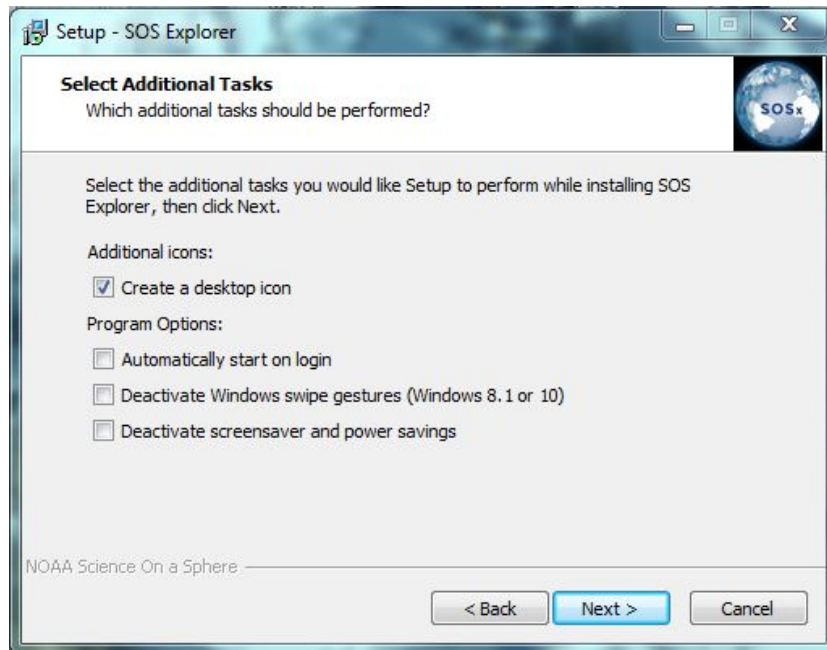
- 6) Next it will give you a prompt asking where to install the Dataset Directory. If you have just one drive, accept the default C:\ drive. If you have a secondary drive for storage, switch to that location using the browse button (typically the D:\ drive). Then press *Next*



- 7) In the Select Start Menu Folder prompt that comes up next, accept the suggested Shortcut by pressing *Next*



- 8) Next you will be asked to Select Additional Tasks. By default “Create a desktop icon” will be checked. The other options for you to select are:
- a) Automatically start on login
 - i) This is useful for systems that are set up as a kiosk
 - b) Deactivate Windows swipe gestures (Windows 8.1 or 10)
 - i) This prevents visitors from easily exiting the application in an exhibit setting
 - c) Deactivate screensaver and power savings
 - i) Select this if you don’t want a screensaver coming on when there is no user interaction.



- 9) After selecting the above options press *Next* and a prompt will appear where you can click *Install*



- 10) At this point, the install software will download all the SOSx content onto your system. This step will take **several hours** the first time.
- 11) If there are missing software packages, you will be prompted to download these. Agree to all of them in order for the software to run properly. These are video codecs and Windows drivers.

- 12) Next you'll see a prompt about completing the setup. You are given the options to view the SOSx-README.txt file or check for new data. Once you have selected what you want, click *Finish*.
 - a) If you selected to view the README file or check for new data, you will see windows for those pop up.
- 13) Double click on the SOS Explorer icon on the Desktop (if you kept that default) or in the Start menu folder that was created. This will initiate the registration process.
- 14) You will need to enter the requested information and then click *Send Profile*. This sends an email to the SOSx team to confirm your registration. An email will be sent to the provided email address once this has been confirmed with directions on what to do next.

Part 4) Registering the SOS Explorer (SOSx) Software

The first time SOSx Explorer is launched it will need to be registered in order to receive a license. You will see a screen that looks like the following:

SOS Explorer™ Registration

Name

Email

Organization

Phone

City State

Country

Please enter your contact information to register this product.

No license found. Please register.

Name	The name of the person who is responsible for administering the installation.
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Email	The email address for the person who is responsible for administering the installation. <i>If other user accounts on the same machine need to run SOS Explorer those users will need to know this email address.</i>
Organization	The name of the organization in charge of the SOS Explorer installation.
Phone	A contact phone number.
City	The city where the SOS Explorer installation is located.
State	The state where the SOS Explorer installation is located.
Country	The country where the SOS Explorer installation is located.

After filling in the information click on “Send Profile.” You will need to be connected to the Internet for this step. If the submission is successful you will see a screen similar to this:



You should receive an email at the address provided from sos.explorer@noaa.gov saying the license request is being reviewed. Please allow up to 48 hours for activation. You will receive another email when the license request has been approved.

Part 5) Running the SOS Explorer (SOSx) Software

If you accept all the default names and file locations during the installation process, there will be a SOS Explorer icon on your Desktop that you can use to launch the application. In the Start menu, there will be a SOS Explorer folder that contains:

- Launcher for SOS Explorer
- Launcher for the Tour Builder
- Sync Datasets which updates all datasets
- Shortcut to the local datasets folder
- License file
- Setup guide (this document)
- Uninstall application

How to start SOS Explorer

Click the icon to start SOSx. You will find the icon in the SOS Explorer folder in the start menu and on the Desktop.



To exit SOS Explorer: Press Alt-F4 on a keyboard

SOS Explorer is difficult to quit when it's set up as an exhibit because it is designed to operate in an unattended exhibit environment where you would not want visitors gaining access to the desktop or operating system. In a classroom setting, the software can be modified through the config file ([see Part 7](#)) to include an exit button if you prefer. In the exhibit setting, you should leave the keyboard and mouse hidden during normal operation. If you need access to the Desktop or Windows environment you should retrieve the keyboard and mouse and press Alt-F4.

Part 6) Selecting Datasets to be Shown in SOS Explorer

There are over 115 datasets loaded onto your exhibit, including real-time datasets that will automatically update every hour. However, if you would prefer to restrict to a particular theme, for example, if your museum is an aquarium and you want only *Water and People* datasets to appear in the *SOSx Search Window*, then it's possible to use our website to select the datasets that you want. **Please Note:** If you are an SOS user and you wish to make an SOS Playlist, please refer to the Tour section of this documentation.

1. Go to sos.noaa.gov and select the *Datasets* tab.
2. Under *Refine by*, check the SOSx box. The list of datasets on the left will reflect this.









ENG 中文 What is SOS? Getting SOS Education SOS Explorer **Datasets** Support

Science On a Sphere®

National Oceanic and Atmospheric Administration

Search datasets Submit Categories Live Programs

Datasets

Name ^	Category	Date Added	Display
 Acidifying Oceans: Oceans and Climate Change	Water: Temperature, Chemistry	Sep 2014	List Gallery
 Aerosols: FIM Chem Model	Air: Chemistry	Jul 2010	
 Age of the Seafloor (vegetation)	Water: Seafloor Land: Plate Tectonics	Apr 2010	
 Agriculture: Cropland Intensity	Land: Human Impact, Land Cover, Agriculture	Mar 2012	
 Agriculture: Food vs. Feed	Land: Agriculture, Human Impact, Land Cover	May 2012	
 Agriculture: Pastureland Intensity	Land: Human Impact, Land Cover, Agriculture	May 2012	
 Air Traffic	Land: Night People: Transportation, Energy	Jan 2010	
 Atmospheric Chemistry: GEOS-5 Model	Air: Chemistry	Dec 2012	

Sort
Date added: new-old

Show results for
Main categories

- All (97)
- Air (26)
- Extras (1)
- Land (18)
- People (12)
- Snow and Ice (5)
- Space (18)
- Water (42)

Refine by
Properties

- ☒ SOSx (97)
- ☐ Narrated Movie (21)
- ☐ Realtime (10)
- ☐ Audio Description (0)

Year

- Click to open a dataset to read the description.
- While on the selected dataset page, in the upper left side of the screen, you'll see the *Builder*.

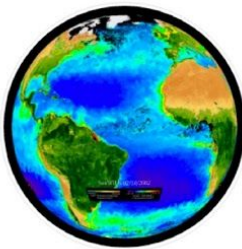
sos.noaa.gov/Datasets/dataset.php?id=168

Science On a Sphere®

National Oceanic and Atmospheric Administration


Search datasets Submit Categories Live Programs



Biosphere: Marine Chlorophyll Concentration and Land Vegetation



Description
The term biosphere refers to the regions of the surface, atmosphere, and hydrosphere of the earth occupied by living organisms. This dataset shows quantity of marine and land-based plant-life as it changes throughout the seasons of the year.

"The purpose of the Sea-viewing Wide Field-of-view Sensor (SeaWiFS) Project is to provide quantitative data on global, ocean bio-optical, properties to the Earth science community. Subtle changes in ocean color signify various types and quantities of marine phytoplankton (microscopic marine plants), the knowledge of which has both scientific and practical applications." - [SeaWiFS website](#). The SeaWiFS Project collects, processes, and distributes data received from an ocean color sensor orbiting the Earth on a satellite. The orbiting sensor can view every square kilometer of cloud-free ocean every 48 hours, providing global information on the oceans. The satellite observations can be used to derive the concentration of microscopic marine plants, phytoplankton, based on the color of the ocean.

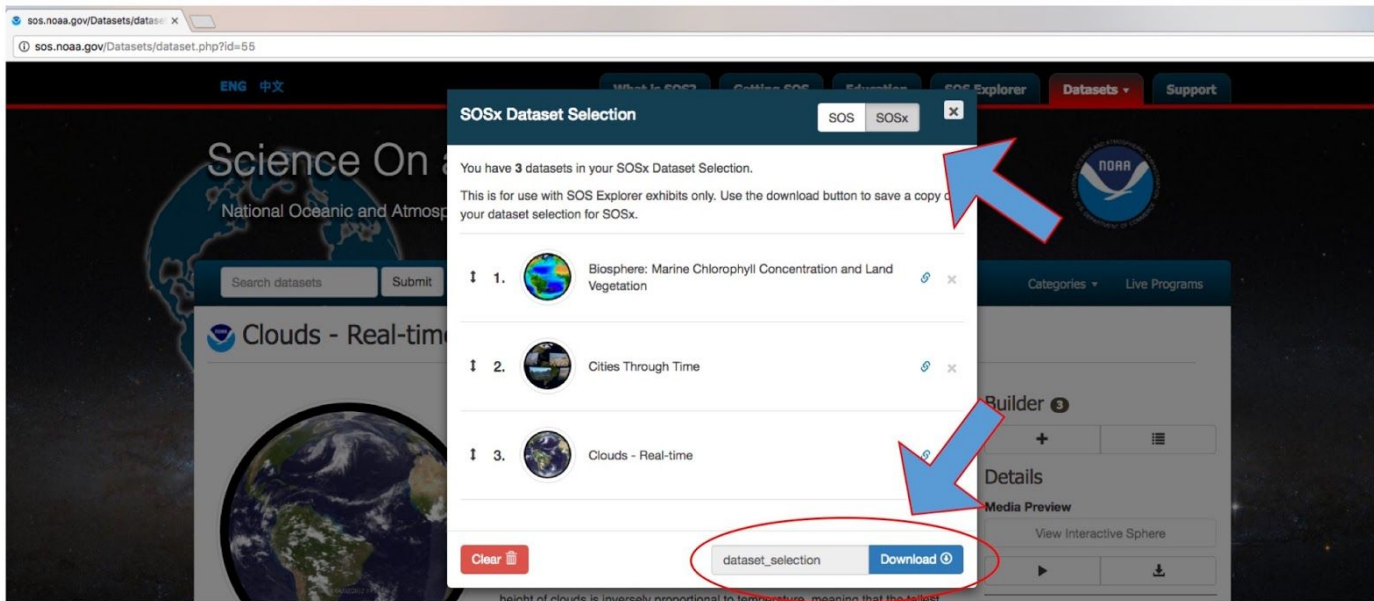
Builder 

Details
Media Preview
View Interactive Sphere
 

Directory
[FTP Link](#)

Categories
Water: 1 file

- Choose your datasets, one at a time, by clicking the + They will appear in the list. To view your list, click the *button on the right* of the + sign. They will appear alphabetically in SOSx Search Screen, therefore there is **no need to reorder them**.
- Once you have selected all of the datasets that you want to appear in your SOSx exhibit, select SOSx from the toggle at the top of your list. Datasets that appear red are not available in SOSx. *Download*. The list will automatically be named dataset_selection.json.



- Place this file in your **local-datasets** directory on your SOSx computer.
- Please note: *Variation Datasets*, i.e. Spanish language, with audio, with labels, etc., (10 of these currently exist in the list on the website) are not available for your system but appear to be in SOSx on the website. These cannot actually be selected.

Part 7) Modifying the SOS Explorer (SOSx) config file

The config file for SOS Explorer gives you many options for customizing your exhibit, from the number of displays to the timing of data syncs to the presence of an exit button. If you choose all the default options during the installation, you will find the config file at: C:\Program Files\SOS Explorer\SOSx_Data\config\config.json

Here are the primary settings you may want to configure in the config file:

Attribute	Description
enableFullFTPSyncOnStart	true to launch a full data synchronization process every time SOSx is started. This may impact system performance. The default is false .
enableRealtimeFTPSyncOnIdle	true to synchronize the latest real-time datasets when there is no activity. The default is true . When set to false , the real-time datasets do not sync.
refreshLocalDatasetsSec	The number of seconds to wait between real-time datasets syncing when the machine is idle. The default is 1800 .
uiScaleFactor	A percentage to scale the UI elements. A value of 1 is the original size, but touch-screen users may prefer larger values such as 1.75 . Default is 1.75 .
numDisplays	The number of displays to show SOS Explorer on. This can be 1 or 2
kioskTimeoutSec	The number of seconds before the automatic kiosk tour will run when there is no activity. Default is 420
kioskTourID	The dataset ID of the tour to run when there is no activity
showWorldBordersOnStart	true displays country borders when the application is started, false shows the globe without borders. Default is false .

UI elements can be shown by setting their value to **true**, or hidden by setting **false**.

Attribute Name	UI Element
showDrawButton	Allows users to open a window to draw lines and place icons on the globe
showQuitButton	Allows users to exit the application by pressing a quit button on the lower-right. Not recommended for exhibits.
showAnalysisButton	Allows users to probe and analyze datasets, and display graphs
showMeasureButton	Allows users to measure distances on the globe
showOverlaysButton	Allows users to display overlays on the globe such as country borders, cities, and grid lines
showCameraControls	Displays camera controls which allow the user to tilt and rotate the camera (pitch and roll)
show2D3DButton	Allows users to switch between 2D map and 3D globe mode

Part 8) Dataset Downloads

New datasets are continually being added to SOSx and real-time datasets are being updated regularly. Defaults have been set for automatic data downloads, but you have the ability to change them to meet your site's needs. All dataset downloads require the computer to have an internet connection.

If you want to manually update the datasets, you can do this by selecting *Sync Datasets* in the SOS Explorer folder found in the Windows start menu under All Programs.

Real-time Datasets

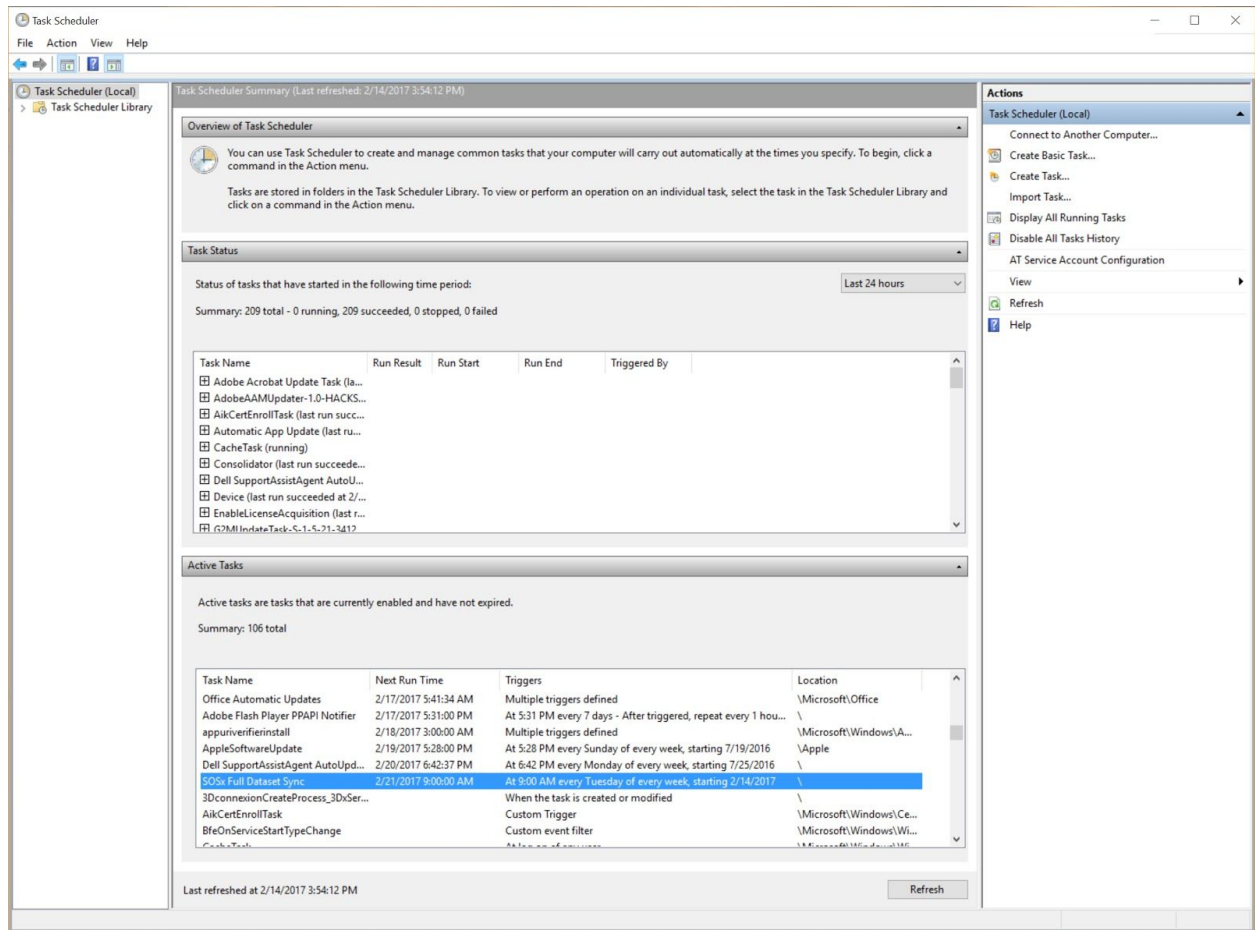
Most real-time datasets show new imagery either hourly or daily so that you can display current events. They are synced every time the software is idle. The time it takes for the software to be considered idle is defined by **kioskTimeoutSec** in the config file, which by default is set to 7 minutes. Once idle, the real-time datasets are synced by default every 30 minutes, as defined by the **refreshLocalDatasetsSec** option in the config file. Other real-time datasets (such as real-time earthquakes) attempt to download the latest data each time the dataset is loaded and require an Internet connection.

Non real-time Datasets

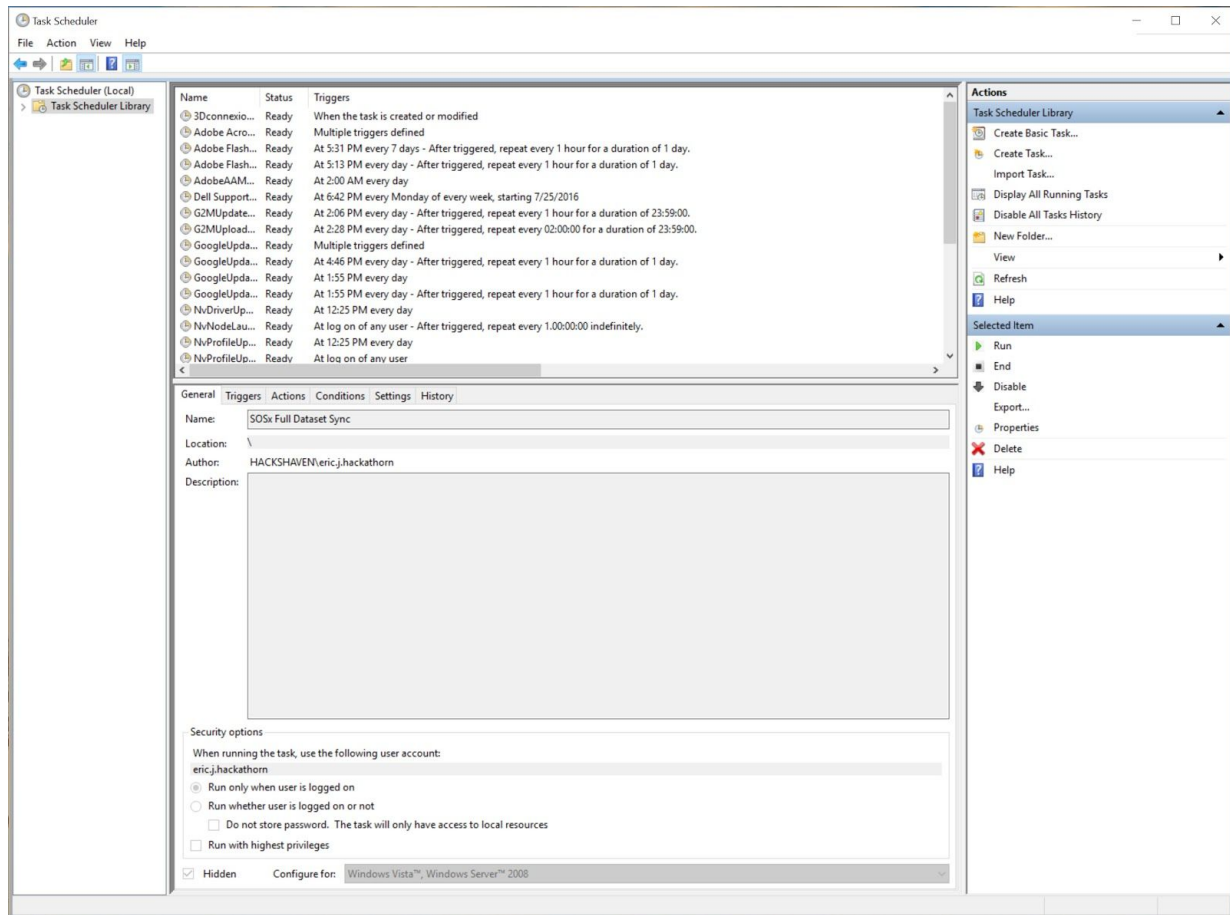
If the "Schedule syncing of datasets Tuesday at 9:00AM" checkbox was left checked during the setup process all other datasets are updated every Tuesday at 9:00am through the Windows task scheduler. When the data download is happening, it's possible that you will see a decline in performance for the SOSx software. If you plan on leaving the computer on all the time, you can set this download to occur in the middle of the night to avoid potential performance issues.

If your computer happens to be off at 9:00am on Tuesday, you can use the manual sync described above to get any new datasets that you are missing.

The scheduled task can be modified by starting the "Task Scheduler" found in the Start Menu.



Double clicking on the “SOSx Full Dataset Sync” task pulls up the properties.



Click on “Properties” in the Actions bar on the right to edit the task.

SOSx Full Dataset Sync Properties (Local Computer) X

General Triggers Actions Conditions Settings History

Name: SOSx Full Dataset Sync

Location: \

Author: HACKSHAVEN\eric.j.hackathorn

Description: |

Security options

When running the task, use the following user account:

eric.j.hackathorn Change User or Group...

☒ Run only when user is logged on

☐ Run whether user is logged on or not

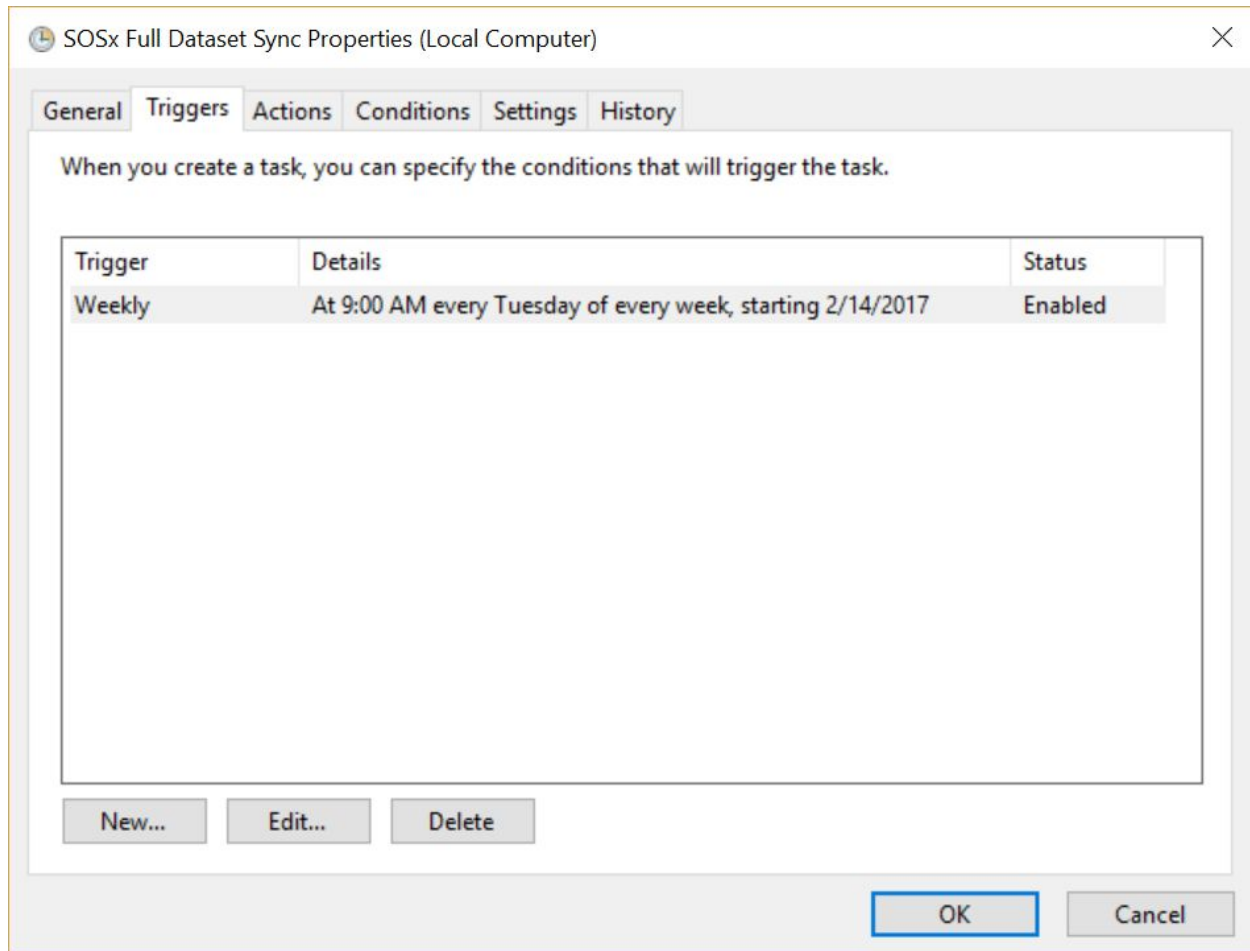
☐ Do not store password. The task will only have access to local computer resources.

☐ Run with highest privileges

☒ Hidden Configure for: Windows Vista™, Windows Server™ 2008

OK Cancel

The “Triggers” tab will let you change the time and frequency of the scheduled full dataset sync.



Part 9) Contacting Support

If you run into any problems or have any questions, you can contact the SOSx team by emailing sos.explorer@noaa.gov. During regular business hours (we're in the Mountain time zone), you should receive same day responses.